MANAGEMENT PLAN
HANFORD SITE TECHNOLOGY COORDINATION GROUP

1.0 INTRODUCTION

In November 1989, the U.S. Department of Energy (DOE) established the Office of Environmental Restoration and Waste Management (EM) as the central authority for cleaning up the DOE weapons complex, preventing further environmental contamination, and instituting responsible environmental management. While executing its responsibilities, EM found that many aspects of its mission could not be achieved using existing technologies without incurring unreasonable costs, risks, and/or schedule impacts. Faced with budgetary pressures, EM has implemented a new approach to managing its environmental research and technology development activities, as described in Tom Grumbly's A New Approach to Environmental Research and Technology Development at the U.S. Department of Energy.

The new approach is based on an integrated, multi-organization team structure focusing on major problem areas that were targeted for action based on risk, prevalence, and need for technology development to meet environmental regulations. The new approach mandates 1) directly linking research and development (R&D) activities to specific site cleanup needs and 2) engaging regulators, stakeholders, and potential users in the technology development process.

The new approach requires establishing a Site Technology Coordination Group (STCG) at each DOE site to consolidate the site's technology needs, enhance communications, and provide technology-transfer functions. The STCG structure implemented at Hanford consists of a Management Council and five Subgroups: 1) Subsurface Contamination, 2) Tanks, 3) Mixed Waste, 4) Nuclear Materials, and 5) Facility Transition, Deactivation and Decommissioning. These Subgroups are aligned with the major remediation and waste management problem areas (Focus Areas) defined in the new approach.

Since the inception of the STCG, other DOE organizations have turned to the STCG for insight into what it will take to complete the cleanup mission at Hanford. In 1996, Congress established the EM Science Program (EMSP), a $50M basic research program to support the cleanup effort. The program managers within DOE/EM and DOE/Energy Research asked the STCG to help construct a Site-specific research agenda.

This Management Plan establishes the Hanford STCG organizational structure, describes its vision and mission, sets goals and objectives, defines roles and responsibilities, and provides success indicators for tracking progress. It provides a basis for managing the future success of technology development and deployment at Hanford.

Active participation of all the STCG Management Council members will ensure the success of the collaborative approach that has been implemented. Their continued commitment to this effort will result in a smoothly running Hanford STCG that can serve as a model for other DOE sites.

1.1 STCG Scope

The STCG's role is to address science and technology issues within the primary framework of:

- The Site Environmental Management Specification, Project Specifications, and Baselines which include:
  - Primary requirements from the Tri-Party Agreement (TPA), and CERCLA/NEPA/SEPA/RCRA decision processes
  - Requirements from the DOE commitments made in response to DNFSB recommendations
  - Secondary planning assumptions on Interim Endpoints and Final Endstates from the Hanford Strategic Plan.

- The Site Budget and Prioritization Process

Science and technology comments related to modifications to the primary framework should be informally referred to the appropriate DOE Assistant Manager or responsible group. Comments not directly related to science and technology issues would be more appropriate for discussion in other forums (e.g., the Hanford Advisory Board [HAB]). When STCG participants have ideas or comments on subjects outside of the primary framework, they should be referred to the appropriate forum and not consume excessive STCG time. The HAB is the official Federal Advisory Committee Act (FACA) group for Hanford and should be contacted by any STCG member who wants to provide advice to DOE on a subject that is outside the scope of the STCG.

2.0 VISION AND MISSION

The vision of the Hanford STCG is to be a strong, unified voice for technology activities that affect the Hanford Site.

To achieve our vision, the Hanford STCG will strive to achieve the following seven mission elements:

- Function by involving user organizations (both DOE and the contractors), technology providers, regulators, American Indian Tribes, and stakeholders, and promoting broad information exchange among all interested parties. Maintain a helpful attitude and serve as a conscience for technology improvement at Hanford. Contribute to DOE-wide communications and lessons learned.

- Identify, prioritize using systems analysis, and seek consensus on Hanford Site and program-specific problems, science and technology needs, and requirements. Recognize baseline technology insertion points. Focus on the baseline, but also identify technologies to support potential baseline alternatives if they offer risk reduction benefits or high financial return on investment by improvements in environmental, safety, or health protection. Devote 20% of the STCG effort to science needs and 80% to technology needs and deployment as a general guideline.

- Be a forum for assessing and recommending potential technologies for application at Hanford. Look for technologies that provide improved endstates, effectiveness, improved schedules, or improved costs in accomplishing the required results. Also look for technologies to reduce surveillance and maintenance costs while maintaining safe operations. Focus on life-cycle costs and benefits; improvements in environmental, safety, or health protection; and improvements in performance, pollution prevention, and waste minimization relative to alternative remedies. Make appropriate referrals for vendors (e.g., to DOE or the contractors).

- Champion and facilitate demonstration and deployment of innovative, modified, or existing technologies that are new to Hanford and share information with other sites to best leverage all available resources.

- Foster technology pull from the DOE-RL, DOE-ORP, and contractor line project customers and eliminate barriers (e.g., "not invented here," resistance to change).

- Promote competitive privatization and commercialization by communicating information on Hanford's science and technology needs and technology insertion points, as well as demonstration and deployment opportunities, to commercial technology providers. Help break barriers to involvement by companies new to Hanford.

- Provide input to decision-makers (e.g., DOE-RL, DOE-ORP, DOE-HQ, Congress, and heads of regulatory agencies) on Hanford's highest-priority science and technology needs to ensure critical needs are funded. Also, provide feedback to them on the Site's accomplishments.

3.0 GOALS AND OBJECTIVES

As stated in the Hanford Strategic Plan, one of the Site's goals is to:

> Develop knowledge and new environmental technologies that make environmental cleanup faster, lower-cost, and more effective, with benefits targeted to Hanford and the DOE Complex.

The strategies developed to achieve this goal are to:

- Provide a scientifically defensible basis for assessing and understanding risk as a part of environmental management decision-making.

- Focus technology development and deployment on long-term solutions that substantively reduce life-cycle costs and risks (e.g., bioremediation, in situ technologies, separations).

- Develop partnerships with other federal laboratories, industry, and academia.

Within the framework of the Hanford Strategic Plan and the New Approach to Environmental Research and Technology Development, four supporting goals have been developed:

- Establish the Hanford STCG as the lead authority and corporate voice for Site science and technology needs assessment as well as technology development, demonstration, and deployment.

- Coordination with the EM Focus Areas Teams and the EM Science Program. Provide advocacy for the Site's needs within EM's national technology development efforts and ensure that those efforts are responsive to our needs.

- Coordinate technology development and acquisitions for the Site. Accelerate technology acceptance by involving regulators and stakeholders early in the development process. Identify operational schedule drivers and technology insertion points.

- Compile and maintain comprehensive consensus-based sets of Site science and technology needs and options that are derived from and linked to current technical, cost, and schedule baselines.

Within the framework of the STCG Goals, the following objectives have been identified:

- Represent Hanford Site needs and interests to the EM Focus Areas Teams and the EMSP for technology research, development, and deployment activities.

- Establish a management structure capable of representing Hanford for broad technology deployment guidance. This structure provides a single management voice for Hanford regarding technology deployment activities and issues.

- Ensure that the technologies being developed meet: 1) Hanford's needs; 2) performance, regulatory, and cost criteria; and 3) stakeholder values.

- Provide coordination between technology users, regulators, American Indian Tribes, stakeholders, technology developers, and researchers to improve technology development/deployment communications at the Hanford Site.

- Promote interchange between STCGs at DOE sites, especially when sites are within the same region or face similar problems or obstacles.

- Promote understanding and knowledge of current STCG activities and interests within the organizations represented by the membership.

4.0 ORGANIZATION

The STCG has two tiers, consisting of a Management Council and five Subgroups (Figure 1). Each Subgroup corresponds to one or more of the problem areas in the EM R&D Program Plan.

The Management Council focuses on Hanford policy issues related to technology development and deployment, and represents the Site to the EM Focus Areas Teams for technology needs/issue resolution. The STCG Subgroups identify and prioritize Site needs, identify test-bed opportunities, interface with regulatory counterparts and EM Focus Areas Teams, and ensure that demonstrated technologies are deployed. The number of STCG Subgroups may increase as new Focus Areas are identified.

4.1 Management Council

The Hanford STCG Management Council is chaired by the DOE/RL Deputy Manager for Site Transition and includes the following members:

- 9 DOE/RL and DOE/ORP Assistant Managers (Environmental Restoration and Waste Management, Facility Transition, Technology Management, Tank Waste Storage & Retrieval, Planning and Integration, Engineering and Standards, Spent Nuclear Fuels, Training Services and Asset Transition, Fast Flux Test Facility),
- 2 representatives from the Environmental Protection Agency (EPA),
- 2 representatives from the Washington State Department of Ecology (Ecology),
- 3 representatives from the Hanford Advisory Board (HAB),
- 1 representative from the State of Oregon Office of Energy,
- 3 representatives from American Indian Tribes (Yakama Indian Nation, Nez Perce Tribe, and Confederated Tribes of the Umatilla Indian Reservation),
- 1 representative each from Battelle Memorial Institute, Bechtel Hanford, Inc., and Fluor Hanford Inc.

The members have decision-making authority from their respective organizations concerning technology deployment and are able to authorize changes necessary for technology demonstrations

The members of the STCG Management Council are committed to consistency in meeting attendance. In support of this commitment, members agree to personally attend each Management Council meeting or be represented by a single designated alternate. The members and designated alternates agree to keep each other fully informed of STCG deliberations and activities.

4.2 Subgroups

The mission of the Subgroups is to serve as a support organization to the Management Council in carrying out its vision and mission, as well as to provide technical recommendations based on research and information gathering. Core participants in the Subgroups include the following:

- Subgroup Lead from appropriate DOE user organization
- Regulators (one from Ecology and one from EPA for each Subgroup)
- Hanford Advisory Board (probably only one per Subgroup)
- American Indian Tribes
- Technology Development (EM-50) (one per Subgroup for each program involved)

By establishing the appropriate DOE user organization as the lead of each Subgroup, we will ensure that STCG activities are user/needs driven as opposed to technology driven. The lead will also be responsible for using appropriate resources, including contractors, regulatory specialists, industry representatives, EM Focus Areas Team members, procurement, and others as needed.

The Subgroups will be consistent on the following:

- Needs format for products to the Management Council
- Tracking (one system is needed for the entire STCG, with the Subgroups providing inputs)
- Prioritization criteria (developed by the Management Council)

The decision-making process will be left up to each STCG Subgroup. Membership in the STCG Subgroups does not need to be consistent in terms of either types or number of members. The STCG Subgroups need to determine their frequency of meetings. They need to be aware of when the Management Council meetings are scheduled so they can plan their meetings accordingly.

5.0 ROLES AND RESPONSIBILITIES

This section describes the roles and responsibilities of the Hanford STCG Management Council and Subgroups. These roles and responsibilities are directly tied to the seven elements of the STCG mission statement.

5.1 Chair

The Hanford STCG is chaired by the DOE/RL Deputy Manager for Site Transition. The Chair is responsible for providing overall leadership for STCG meetings and ensuring that Management Council decisions are acted upon in a timely fashion.

5.2 Co-Chair

The Co-Chair is responsible for carrying out the duties of the Chair during the times that the Chair is absent or unavailable.

5.3 Management Council and Subgroups

The primary STCG customers are:

- Hanford projects
- The DOE/Environmental Management Office of Science and Technology (EM-50)
- Commercial technology providers
- Regulators

Primary beneficiaries include:

- Tribes
- Stakeholders

- Other sites and interests

The STCG Management Council's primary roles and responsibilities include:

- working at a policy and management level within the STCG scope, with detailed work and technical analysis primarily being done by the STCG Subgroups
- deciding STCG policy issues within the STCG Management Plan scope
- determining and approving prioritization criteria used by STCG Subgroups
- supporting and endorsing the STCG Subgroup work sent to EM-50 and Hanford programs as requested by the Subgroup leads
- endorsing and prioritizing major Hanford proposals for funding from EM-50 for demonstrations or deployments as necessary or requested by the Subgroup leads
- providing formal recommendations or endorsements to the DOE programs/projects
- facilitating barrier resolution
- delegating work tasks to the STCG Subgroups, including referring broad areas of large technical uncertainty or technical risk to appropriate STCG Subgroups for the development of science or technology needs to reduce the programmatic risks
- acting as a catalyst/driver to encourage prudent risk-taking
- acting as an oversight/integrator for issues from the STCG Subgroups
- providing process improvement decisions for STCG operations
- implementing an effective communications plan for the STCG
- providing a two-way information exchange between the members' home organizations and the STCG
- encouraging opportunities for competitive privatization or commercialization of technologies
- providing strong endorsements or recommendations to DOE for technology-related issues (e.g., budgeting)
- keeping STCG discussions focused on science and technology issues within the STCG scope and moving policy questions to more appropriate forums such as the HAB.

The roles and responsibilities of the Subgroups, as related to the specific bullets in the STCG Mission Statement, are summarized below.

MISSION STATEMENT - Element 1

Function by involving user organizations (both DOE and the contractors), technology providers, regulators, American Indian Tribes, and stakeholders, and promoting broad information exchange among all interested parties. Maintain a helpful attitude and serve as a conscience for technology improvement at Hanford. Contribute to DOE-wide communications and lessons learned.

Subgroup Roles and Responsibilities

- Develop a fiscal year (FY) plan and schedule for the goals, objectives, and activities of each Subgroup. Report status quarterly to the Management Council and prepare an annual report at the conclusion of each FY.

- Promote information exchange among user organizations (both DOE and the contractors), technology providers, regulators, American Indian Tribes, and stakeholders to allow the STCG to make informed decisions on technology issues.

- Engage the Management Council in important technology issues and provide recommendations and action plans.

- Facilitate two-way communications on technical issues with other STCGs, the Focus Areas, Hanford user organizations (DOE and the contractors), the Management Council, and other interested parties (e.g., Hanford Advisory Board, Natural Resource Trustee Council, vendors, the Community Leaders Network, the National Academy of Sciences, universities).

- Implement Subgroup activities called for in the STCG Communications Plan.

MISSION STATEMENT - Element 2

Identify, prioritize using systems analysis, and seek consensus on Hanford Site and program-specific problems, science and technology needs, and requirements. Recognize baseline technology insertion points. Focus on the baseline, but also identify technologies to support potential baseline alternatives if they offer risk reduction benefits or high financial return on investment by improvements in environmental, safety, or health protection. Devote 20% of the STCG effort to science needs and 80% to technology needs and deployment as a general guideline.

Subgroup Roles and Responsibilities

- Understand technical baselines.

- Systematically identify, prioritize, and endorse Site problems and science and technology needs for distribution to the Management Council, Office of Science and Technology, other sites, and industry.

- As appropriate, use criteria developed by the Management Council as a tool to prioritize technology needs.

- Develop quarterly status reports on how Hanford's technology needs are being met. Identify issues for follow-on actions.

MISSION STATEMENT - Element 3

Be a forum for assessing and recommending potential technologies for application at Hanford. Look for technologies that provide improved endstates, effectiveness, improved schedules, or improved costs in accomplishing the required results. Also look for technologies to reduce surveillance and maintenance costs while maintaining safe operations. Focus on life-cycle costs and benefits; improvements in environmental, safety, or health protection; and improvements in performance, pollution prevention, and waste minimization relative to alternative remedies. Make appropriate referrals for vendors (e.g., to DOE or the contractors).

Subgroup Roles and Responsibilities

- Identify potential technologies (baseline and alternative technologies).

- Assess potential technologies. Where appropriate, use the criteria developed by the Management Council.

- Evaluate and recommend technologies to be demonstrated or deployed at Hanford and evaluate technologies demonstrated or deployed at other sites for applicability at Hanford. If there are regulatory, cultural, or other issues to be addressed, be sure the right people are involved (e.g., regulators, Tribes, stakeholders).

- Present technology results, issues, and recommended actions as appropriate to the Management Council.

- Refer technology providers to the appropriate points of contact on the Site.

MISSION STATEMENT - Element 4

Champion and facilitate demonstration and deployment of innovative, modified, or existing technologies that are new to Hanford and share information with other sites to best leverage all available resources.

Subgroup Roles and Responsibilities

- Work with Site Contractors and DOE Project Managers to facilitate effective technology utilization at Hanford.

- Work with user organizations to facilitate deployment of recommended technologies.

- Provide input on demonstrations and deployments to the STCG database.

- Evaluate progress and results of demonstrations and deployments. Document lessons learned.

- Provide Subgroup endorsement of recommended technologies to the user organizations and the Management Council.

MISSION STATEMENT - Element 5

Foster technology pull from the DOE and contractor line project customers and eliminate barriers (e.g., "not invented here," resistance to change).

Subgroup Roles and Responsibilities

- Facilitate technology information exchange among user organizations (e.g., periodic technical seminars, quarterly technology status updates, invitations to observe onsite technology demonstrations).

- Have user organizations provide status updates for the Subgroups on their technology needs.

- Identify barriers to technology demonstration and deployment by "pulsing" user organizations and vendors.

- Work with Site Contractors and DOE Project Managers on barrier resolution.

- Recommend to the Management Council mechanisms for removing barriers to demonstration and deployment.

MISSION STATEMENT - Element 6

Promote competitive privatization and commercialization by communicating information on Hanford's science and technology needs and technology insertion points, as well as demonstration and deployment opportunities, to commercial technology providers. Help break barriers to involvement by companies new to Hanford.

Subgroup Roles and Responsibilities

- Foster and define requirements for private-sector involvement.

- Get information from Hanford user organizations on technology insertion points.

- Encourage the use of existing mechanisms for partnerships (e.g., CRADAs).

MISSION STATEMENT - Element 7

Provide input to decision-makers (e.g., DOE-RL, DOE-ORP, DOE-HQ, Congress, and heads of regulatory agencies) on Hanford's highest-priority science and technology needs to ensure critical needs are funded. Also, provide feedback to them on the Site's accomplishments.

Subgroup Roles and Responsibilities

- Review and evaluate science and technology work scopes and funding priorities (EM-30, EM-40, EM-50, and EM-60) against Hanford Site technology needs.

- Recommend changes to science and technology work scopes as appropriate.

- Interface with the Focus Areas to see if our high-priority needs are being met.

- Inform the Management Council if technology budgets do not support Hanford's science and technology needs. When there appear to be significant, cost-effective improvements in endstates or a good return on investment for a particular technology development or deployment activity, encourage the user organization to pursue it utilizing available project funding.

- Identify and work with DOE/HQ counterparts to communicate critical needs, priorities, funding issues, etc.